



2017 COST OF SERVICE, RATE TRAJECTORIES AND BILLING DETERMINANTS

March 6, 2017

AGENDA

- Cost of Service (COS), Trajectories, and Billing Determinants Overview
- Rate Trajectories & Cost of Service (COS) Results
 - Drivers of COS Change between 2015 and 2017
 - Drivers of Trajectory to 2024
- Rate Schedule Pricing Change
 - Review of Billing Determinant change by Rate Class
- Schedule to Target Rate Adoption Date

COS & TRAJECTORY – OVERALL GOALS

Grant PUD's Strategic Plan – Key Objectives:

- Maintain a Strong Financial Position
- Provide Long Term Low Rates

Resolution #8768 (May 12, 2015)

- Setting Rate Policy (superseding Resolution #8690 from October 7, 2013) uses the Cost of Service model and related trajectories as an input to rate setting
- “By December 31, 2023, the rate schedules shall be designed such that the differential between the "cost to serve" and the "expected class revenue recovery" for each Rate Class shall not exceed +15%/- 20.0%.”
- Rate Case Quality Cost of Service
 - Industry standard approach Cost of Service
 - Provides a periodically updated model for Management and Commission to utilize when evaluating Rate Setting

COST OF SERVICE AND TRAJECTORY PARAMETERS

In general, same as the 2015 COS:

- Same core model
- Same allocator types and methodologies for costs
- Same rate trajectory methodology

Updates:

- Extended inputs/model to 2026 (rolling 10-year window)
 - Rate trajectories still solve to 2024 per policy
- Updated cost and revenue data (historical and forecasts)
- Incorporated District changes such as Shell Contract and use of Junior Lien Bonds

All numbers are based on a January 1, 2017 implementation of revenue increases. April 1 implementation results in less revenue for 2017.

OVERALL RESULTS: THE 2017 COS IS VERY SIMILAR TO 2015 COS

- Most classes' 2017 COS results are in line with 2015
 - Residential, Irrigation, and Large Industrials have some differences that will be explained
 - 2017 COS is the starting point to solve rate trajectories to the 2024 ending point
- Most classes trajectories are in line with 2015
 - General Service, Large General Service, and Agricultural Processors have some differences that will be explained
- The Billing Determinants are proposed to be allocated on the same percentage basis (with a few constraints)

RESULTS: 2017 TO 2015 DIFFERENTIAL TO COS

Projected Test Year Differentials to COS				
<i>by study and class, before rate increase 2017 & 2015, after rate increase 2024</i>				
Test Year	2017 COS		2015 COS	
	2017	2024	2015	2024
Residential-Total (1)	-34.2%	-20.0%	-27.4%	-20.0%
General Service (2), (PA)&(PA St. Lghts)	-17.6%	-12.6%	-19.9%	-0.1%
Irrigation (3)	-45.3%	-20.0%	-46.4%	-20.0%
Street Lights (6)	-14.8%	25.3%	3.6%	12.7%
Large General Service (7)	11.4%	-12.5%	8.8%	0.0%
Industrial (14)	3.3%	14.6%	1.2%	15.0%
Large Industrial (15) & (94)	37.9%	15.0%	37.3%	16.1%
Agricultural Processing (16)	6.4%	10.9%	6.0%	15.0%
Agricultural Boiler (85)	-47.3%	-17.0%	-23.1%	5.2%

 Indicates a result that is different than was expected following the 2015 COSA
 An end-point (2024) change that affects rate trajectories


RESULTS: ANNUAL TRAJECTORIES

The 2024 forecasted COS drives solving trajectory from 2017 to achieve targets

Average Annual Increases (2017-2024)		
<i>by study and class</i>		
	2017 COS	2015 COS
Residential-Total (1)	1.5%	1.6%
General Service (2), (PA)&(PA St. Lghts)	2.1%	3.5%
Irrigation (3)	3.4%	3.3%
Street Lights (6)	0.5%	0.5%
Large General Service (7)	1.0%	1.8%
Industrial (14)	5.0%	4.9%
Large Industrial (15) & (94)	0.7%	0.5%
Agricultural Processing (16)	5.0%	4.3%
Agricultural Boiler (85)	5.0%	5.0%

 Indicates a Trajectory significantly different than 2015 result

DRIVERS OF CHANGE BETWEEN STUDIES

- Changes impacting 2017 COS:
 - Increased capital expenditures
 - Load and revenue changes
 - Increased power supply costs
 - Bond issuance (less requirement)
 - Changes impacting the rate trajectories to 2024:
 - Larger forecasted loads and revenue
 - Increased power supply costs
 - Investment Earnings (Junior Lien Bonds)
 - Increased Financial Plan Fund transfer
-  Primary drivers of the 2017 COS results and rate trajectories

INCREASED CAPITAL IMPACTS THE 2017 COS

- \$24.2 million additional Net Capital in 2017 compared to 2015
 - +\$13.4 million Capital
 - - \$10.8 million CIAC
- Functionalized on Original Plant Cost Basis in both studies
 - Two largest allocations are 32% to transmission and 22% to rural lines
- Change in 2024 capital, which drives trajectories, was not significantly changed

CHANGES IN LOAD AND REVENUE FORECAST IMPACT THE 2017 COS

Load and revenue forecast is driven by changes in Rate Class growth and usage patterns

2017 Revenue Projection			
	2015 COSA	2017 COSA	% Increase
Residential (1)	\$ 45,331,287	\$ 44,544,595	-2%
Irrigation (3)	\$ 23,858,748	\$ 24,750,810	4%
Large Industrial (15)	\$ 64,302,854	\$ 64,736,754	1%
2017 MWh Consumption			
	2015 COSA	2017 COSA	% Increase
Residential (1)	818,945	806,135	-2%
Irrigation (3)	546,084	592,040	8%
Large Industrial (15)	1,806,784	1,765,161	-2%

INCREASED 2024 INDUSTRIAL LOAD AND REVENUE IMPACT THE RATE TRAJECTORIES

Industrial projected growth creates \$5.5 million in additional revenue in excess of the cost to serve

2024 Revenue Projection			
	2015 COSA	2017 COSA	% Increase
Industrial (14)	\$ 17,154,519	\$ 38,823,615	126%
Large Industrial (15)	\$ 77,753,393	\$ 103,648,286	33%
Agricultural Processing (16)	\$ 15,940,586	\$ 17,115,050	7%
Total	\$ 110,848,499	\$ 159,586,951	44%
2024 Cost To Serve			
	2015 COSA	2017 COSA	
Industrial (14)	\$ 14,588,347	\$ 33,165,212	127%
Large Industrial (15)	\$ 65,206,186	\$ 88,138,185	35%
Agricultural Processing (16)	\$ 13,552,470	\$ 15,253,378	13%
Total	\$ 93,347,003	\$ 136,556,775	46%
Revenue - Cost to Serve	\$ 17,501,496	\$ 23,030,176	

Greater power cost is the largest driver in the increased cost to serve

INCREASED 2024 POWER SUPPLY COSTS IMPACT THE RATE TRAJECTORIES

Power Supply Costs (PRP costs, EUDL, Sales to Other Utilities)

- \$39.1 million increase in 2024 net power supply costs
 - 2024 wholesale prices \$32.10 in 2017 COS versus \$46.40 in 2015 COS (less benefit)
 - +13% on a MWh equivalent basis between 2015 COS and 2017 COS
- Forecasted loads greater for Industrial, Large Industrial, and Agricultural Processors from the 2015 COS to the 2017 COS
 - Increases their share of 2024 Power Costs from 49% to 56%
 - Increases power supply costs as a percentage of their total costs from 82% to 88%

RATE TRAJECTORY DIFFERENCES

Rate Schedule 2 (General Service) and Rate Schedule 7 (Large General Service) show Rate Trajectories significantly below the 2015 calculation.

- In the 2015 Rate Trajectories, these classes were targeted to a 0% Cost to Serve differential to balance the overall revenue and costs for the District.
- In the 2017 Rate Trajectories, these classes are targeted to -12.5% Cost to Serve differential as a result of rate policy:
 - “Residential and Irrigation... at -20%.”
 - Industrials to +15%
 - “General Service (Small Commercial) and Large General Service (Large Commercial) shall be allocated any remaining economic benefit.”
- Increased industrial load benefited General Service and Large General Service \$5.5 million in 2024.

BILLING DETERMINANT ASSUMPTIONS

- Within each Rate Class the subcomponents of increases to billing determinants targeted to the same ratio as implemented in 2015 and 2016
 - In general, the higher percentage increases are associated with fixed billing components
 - Continue to close HP Capacity charge gap on Irrigation
 - Move toward eliminating the declining Energy Block structures in Rate Class 2 (achieved in 2017) and Rate Class 7

BILLING DETERMINANTS

Schedule	2016	2017	2016 - 2017 % Change	Rev Increase from Rate Change
Rate Schedule 1 - Residential (Total % Increase) & all in rate	\$ 0.05474	\$ 0.05553	1.5%	\$655,347 Total
Basic Charge (per day)	\$0.51	\$0.53	3.9%	\$282,610 Basic
Energy Charge (per kWh)	\$0.04455	\$0.04500	1.0%	\$372,737 Energy
Rate Schedule 2 - General Service (Total % Increase) & all in rate	\$ 0.04711	\$ 0.04794	2.1%	\$517,978 Total
Basic Charge - Single Phase (per day)	\$0.63	\$0.66	4.8%	\$45,481 Basic
Basic Charge - Three Phase (per day)	\$0.95	\$0.99	4.2%	\$40,979 Basic
Energy Block 1 (per kWh)	\$0.04100	\$0.04172	1.8%	\$190,982 Energy
Energy Block 2 (per kWh)	\$0.04085	\$0.04172	2.1%	\$240,537 Energy
Rate Schedule 3 - Irrigation (Total % Increase) & all in rate	\$ 0.04029	\$ 0.04181	3.4%	\$825,375 Total
Basic Charge - Single Phase (per month)	\$26.13	\$27.70	6.0%	\$677 Basic
Basic Charge - Three Phase (per month)	\$37.31	\$39.55	6.0%	\$70,628 Basic
Energy Block 1 (per kWh)	\$0.02745	\$0.02820	2.7%	\$444,030 Energy
Capacity Charge - First 75 hp (per hp)	\$2.49	\$2.58	3.6%	\$132,692 Capacity
Capacity Charge - additional hp (per hp)	\$2.17	\$2.31	6.5%	\$177,348 Capacity

BILLING DETERMINANTS

Schedule	2016	2017	2016 - 2017 % Change	Rev Increase from Rate Change
Rate Schedule 6 - Street Lighting Service (Total % Increase) & all in rate	\$ 0.20634	\$ 0.20737	0.5%	\$4,650 Total
Rate Schedule 7 - Large General Service (Total % Increase) & all in rate	\$ 0.03141	\$ 0.03177	1.0%	\$82,846 Total
Basic Charge - (per month)	\$143.26	\$145.55	1.6%	\$2,830 Basic
Energy Block 1 (per kWh)	\$0.02100	\$0.02100	0.0%	\$0 Energy
Energy Block 2 (per kWh)	\$0.01826	\$0.01842	0.9%	\$34,603 Energy
Demand Charge (per kW)	\$4.82	\$4.89	1.5%	\$45,412 Demand
Rate Schedule 14 - Industrial (Total % Increase) & all in rate	\$ 0.02637	\$ 0.02763	5.0%	\$691,736 Total
Basic Charge - (per month)	\$624.00	\$624.00	0.0%	\$0 Basic
Energy Block 1 (per kWh)	\$0.01826	\$0.01917	5.0%	\$477,785 Energy
Energy Block 2 (per kWh)	\$0.03250	\$0.03250	0.0%	\$0 Energy
Demand Charge (per kW)	\$4.63	\$4.87	5.2%	\$213,951 Demand

BILLING DETERMINANTS

Schedule	2016	2017	2016 - 2017 % Change	Rev Increase from Rate Change
Rate Schedule 15 - Large Industrial (Total % Increase) & all in rate	\$ 0.03595	\$ 0.03677	0.7%	\$417,017 Total
Basic Charge - (per month)	\$1,000.00	\$1,000.00	0.0%	\$0 Basic
Energy Block 1 (per kWh)	\$0.02552	\$0.02552	0.0%	\$0 Energy
Energy Block 2 (per kWh)	\$0.02909	\$0.02909	0.0%	\$0 Energy
Energy Block 3 (per kWh)	\$0.03044	\$0.03044	0.0%	\$0 Energy
Energy Block 4 (per kWh)				
Energy Block 5 (per kWh)				
Demand Charge (per kW)	\$5.37	\$5.52	2.8%	\$417,017 Demand
Rate Schedule 16 - Ag Food Processing (Total % Increase) & all in rate	\$ 0.02713	\$ 0.02842	5.0%	\$492,766 Total
Basic Charge - (per month)	\$624.00	\$624.00	0.0%	\$0 Basic
Energy Block 1 (per kWh)	\$0.01790	\$0.01873	4.6%	\$301,686 Energy
Energy Block 2 (per kWh)	\$0.03250	\$0.03250	0.0%	\$0 Energy
Demand Charge (per kW)	\$4.59	\$4.86	5.9%	\$191,080 Demand
Rate Schedule 85 - Ag Food Processing Boiler (Total % Increase) & all in rate	N/A	N/A	5.0%	\$662 Total
Basic Charge - (per month)	\$1,102.50	\$1,157.63	5.0%	\$662 Basic
Energy Block 1 (per kWh)	\$0.02601	\$0.02601	0.0%	\$0 Energy
Energy Block 2 (per kWh)	\$0.02966	\$0.02966	0.0%	\$0 Energy
Demand Charge (per kW)	\$5.37	\$5.52	2.8%	\$0 Demand

SCHEDULE

- 3/6 – Public Rate Meeting, Ephrata Headquarters, 2-4 p.m.
- 3/6 – Public Rate Meeting, Moses Lake Local Office Auditorium
312 W Third, 6-8 p.m.
- 3/14 – Commission meeting
- 3/28 – Rate Adoption Target Date
- 4/1 – New Rates in Effect Target Date

Detail Cost of Service and Rate Trajectory sessions available upon request

Public Affairs (509) 754-5035

Email: publicaffairs@grantpud.org

CONCLUSION

- Results for 2017 COSA and 2015 COSA do not result in significant variances.
 - Largest drivers are: net capital and load/revenue changes
- The Rate Trajectories between the 2017 and 2015 COSAs were similar, with the exception of Rate Schedules 2 & 7, which now have a different 2024 COS differential, and Rate Schedule 16 which is affected by a large change in 2024 power supply costs.
- The Billing Determinants proposal is allocated as closely as possible to the way it was done in 2015 and 2016.

APPENDIX A: PROPOSED BILLING DETERMINANT CHANGES

Exhibit A											
2017 Recommended Retail Revenue Increases											
Figures are based on new rates being effective January 1, 2017											
											2% Overall Increase
Schedule	2014	2015	2014 - 2015 % Change	2016	2015 - 2016 % Change	2017	2016 - 2017 % Change	2017 - Base Rev	Rev Post Rate Change	Rev Increase from Rate Change	2017 Forecast MWH
Rate Schedule 1 - Residential (Total % Increase) & all in rate	\$ 0.05229	\$ 0.05369	2.4%	\$ 0.05474	1.6%	\$ 0.05553	1.5%	\$44,107,485 Total	\$44,762,831 Total	\$655,347 Total	
Basic Charge (per day)	\$0.46	\$0.49	6.5%	\$0.51	4.1%	\$0.53	3.9%	\$7,206,556 Basic	\$7,489,166 Basic	\$282,610 Basic	
Energy Charge (per kWh)	\$0.04334	\$0.04406	1.7%	\$0.04455	1.1%	\$0.04500	1.0%	\$36,900,929 Energy	\$37,273,666 Energy	\$372,737 Energy	806,135
Rate Schedule 2 - General Service (Total % Increase) & all in rate	\$ 0.04342	\$ 0.04467	3.0%	\$ 0.04711	3.5%	\$ 0.04794	2.1%	\$24,097,887 Total	\$24,615,866 Total	\$517,978 Total	
Basic Charge - Single Phase (per day)	\$0.56	\$0.59	5.4%	\$0.63	6.8%	\$0.66	4.8%	\$955,099 Basic	\$1,000,580 Basic	\$45,481 Basic	
Basic Charge - Three Phase (per day)	\$0.85	\$0.90	5.9%	\$0.95	5.6%	\$0.99	4.2%	\$973,241 Basic	\$1,014,220 Basic	\$40,979 Basic	
Energy Block 1 (per kWh)	\$0.04100	\$0.04100	0.0%	\$0.04100	0.0%	\$0.04172	1.8%	\$10,875,379 Energy	\$11,066,362 Energy	\$190,982 Energy	251,425
Energy Block 2 (per kWh)	\$0.03617	\$0.03830	5.9%	\$0.04085	6.7%	\$0.04172	2.1%	\$11,294,168 Energy	\$11,534,704 Energy	\$240,537 Energy	262,065
Rate Schedule 3 - Irrigation (Total % Increase) & all in rate	\$ 0.03838	\$ 0.03953	3.5%	\$ 0.04029	3.3%	\$ 0.04181	3.4%	\$23,925,390 Total	\$24,750,766 Total	\$825,375 Total	
Basic Charge - Single Phase (per month)	\$23.25	\$24.65	6.0%	\$26.13	6.0%	\$27.70	6.0%	\$11,275 Basic	\$11,952 Basic	\$677 Basic	
Basic Charge - Three Phase (per month)	\$33.21	\$35.20	6.0%	\$37.31	6.0%	\$39.55	6.0%	\$1,176,403 Basic	\$1,247,032 Basic	\$70,628 Basic	
Energy Block 1 (per kWh)	\$0.02594	\$0.02672	3.0%	\$0.02745	2.7%	\$0.02820	2.7%	\$16,251,487 Energy	\$16,695,517 Energy	\$444,030 Energy	592,040
Capacity Charge - First 75 hp (per hp)	\$2.35	\$2.42	3.0%	\$2.49	2.9%	\$2.58	3.6%	\$3,795,858 Capacity	\$3,928,550 Capacity	\$132,692 Capacity	
Capacity Charge - additional hp (per hp)	\$1.92	\$2.04	6.3%	\$2.17	6.4%	\$2.31	6.5%	\$2,690,367 Capacity	\$2,867,715 Capacity	\$177,348 Capacity	
Rate Schedule 6 - Street Lighting Service (Total % Increase) & all in rate	\$ 0.21343	\$ 0.21295	0.5%	\$ 0.20634	0.5%	\$ 0.20737	0.5%	\$931,540 Total	\$936,190 Total	\$4,650 Total	4,515
Conventional Group 1 70 - 150 Watt	\$9.15	\$9.20	0.5%	\$9.25	0.5%	\$9.29	0.5%				
Conventional Group 2 200 - 250 Watt	\$12.40	\$12.46	0.5%	\$12.52	0.5%	\$12.59	0.5%				
Conventional Group 3 400 Watt	\$17.50	\$17.59	0.5%	\$17.68	0.5%	\$17.77	0.5%				
Conventional Standards 25'-30'	\$5.35	\$5.38	0.5%	\$5.41	0.5%	\$5.43	0.5%				
Conventional Standards 35'-40'	\$7.40	\$7.44	0.5%	\$7.48	0.5%	\$7.51	0.5%				
Decorative Unit 1	\$40.85	\$41.05	0.5%	\$41.26	0.5%	\$41.46	0.5%				
Decorative Unit 1A	\$21.75	\$21.86	0.5%	\$21.97	0.5%	\$22.08	0.5%				
Decorative Unit 2	\$42.00	\$42.21	0.5%	\$42.42	0.5%	\$42.63	0.5%				
Decorative Unit 2A	\$24.35	\$24.47	0.5%	\$24.59	0.5%	\$24.72	0.5%				
Decorative - Reflector & Refractor pair	\$2.90	\$2.91	0.5%	\$2.92	0.5%	\$2.94	0.5%				
Decorative - 35 Watt two lamps	\$0.75	\$0.75	0.5%	\$0.76	0.5%	\$0.76	0.5%				
Decorative - 70 Watt two lamps	\$1.40	\$1.41	0.5%	\$1.42	0.5%	\$1.43	0.5%				
Decorative - 150 Watt two lamps	\$2.90	\$2.91	0.5%	\$2.92	0.5%	\$2.94	0.5%				
Rate Schedule 7 - Large General Service (Total % Increase) & all in rate	\$ 0.03166	\$ 0.03137	2.0%	\$ 0.03141	1.8%	\$ 0.03177	1.0%	\$8,160,249 Total	\$8,243,095 Total	\$82,846 Total	
Basic Charge - (per month)	\$135.30	\$139.36	3.0%	\$143.26	2.8%	\$145.55	1.6%	\$177,069 Basic	\$179,900 Basic	\$2,830 Basic	
Energy Block 1 (per kWh)	\$0.02100	\$0.02100	0.0%	\$0.02100	0.0%	\$0.02100	0.0%	\$907,106 Energy	\$907,106 Energy	\$0 Energy	43,196
Energy Block 2 (per kWh)	\$0.01773	\$0.01801	1.6%	\$0.01826	1.4%	\$0.01842	0.9%	\$3,949,121 Energy	\$3,983,724 Energy	\$34,603 Energy	216,272
Demand Charge (per kW)	\$4.55	\$4.69	3.1%	\$4.82	2.8%	\$4.89	1.5%	\$3,126,953 Demand	\$3,172,365 Demand	\$45,412 Demand	
Rate Schedule 14 - Industrial (Total % Increase) & all in rate	\$ 0.02515	\$ 0.02566	3.5%	\$ 0.02637	4.9%	\$ 0.02763	5.0%	\$13,890,984 Total	\$14,522,720 Total	\$691,736 Total	
Basic Charge - (per month)	\$624.00	\$624.00	0.0%	\$624.00	0.0%	\$624.00	0.0%	\$97,344 Basic	\$97,344 Basic	\$0 Basic	
Energy Block 1 (per kWh)	\$0.01682	\$0.01739	3.4%	\$0.01826	5.0%	\$0.01917	5.0%	\$9,587,200 Energy	\$10,064,985 Energy	\$477,785 Energy	525,038
Energy Block 2 (per kWh)	\$0.03250	\$0.03250	0.0%	\$0.03250	0.0%	\$0.03250	0.0%	\$18,968 Energy	\$18,968 Energy	\$0 Energy	584
Demand Charge (per kW)	\$4.24	\$4.41	4.0%	\$4.63	5.0%	\$4.87	5.2%	\$4,127,472 Demand	\$4,341,423 Demand	\$213,951 Demand	
Rate Schedule 15 - Large Industrial (Total % Increase) & all in rate	\$ 0.03518	\$ 0.03599	0.5%	\$ 0.03595	0.5%	\$ 0.03677	0.7%	\$60,720,892 Total	\$61,137,909 Total	\$417,017 Total	
Basic Charge - (per month)	\$1,000.00	\$1,000.00	0.0%	\$1,000.00	0.0%	\$1,000.00	0.0%	\$84,000 Basic	\$84,000 Basic	\$0 Basic	
Energy Block 1 (per kWh)	\$0.02552	\$0.02552	0.0%	\$0.02552	0.0%	\$0.02552	0.0%	\$22,690,930 Energy	\$22,690,930 Energy	\$0 Energy	889,143
Energy Block 2 (per kWh)	\$0.02909	\$0.02909	0.0%	\$0.02909	0.0%	\$0.02909	0.0%	\$11,499,395 Energy	\$11,499,395 Energy	\$0 Energy	395,304
Energy Block 3 (per kWh)	\$0.03044	\$0.03044	0.0%	\$0.03044	0.0%	\$0.03044	0.0%	\$11,517,357 Energy	\$11,517,357 Energy	\$0 Energy	378,363
Energy Block 4 (per kWh)											
Energy Block 5 (per kWh)											
Demand Charge (per kW)	\$5.14	\$5.26	2.3%	\$5.37	2.1%	\$5.52	2.8%	\$14,929,211 Demand	\$15,346,228 Demand	\$417,017 Demand	
Rate Schedule 16 - Ag Food Processing (Total % Increase) & all in rate	\$ 0.02686	\$ 0.02709	2.5%	\$ 0.02713	4.3%	\$ 0.02842	5.0%	\$9,836,963 Total	\$10,329,729 Total	\$492,766 Total	
Basic Charge - (per month)	\$624.00	\$624.00	0.0%	\$624.00	0.0%	\$624.00	0.0%	\$82,368 Basic	\$82,368 Basic	\$0 Basic	
Energy Block 1 (per kWh)	\$0.01682	\$0.01721	2.3%	\$0.01790	4.0%	\$0.01873	4.6%	\$6,506,239 Energy	\$6,807,925 Energy	\$301,686 Energy	363,477
Energy Block 2 (per kWh)	\$0.03250	\$0.03250	0.0%	\$0.03250	0.0%	\$0.03250	0.0%	\$0 Energy	\$0 Energy	\$0 Energy	
Demand Charge (per kW)	\$4.24	\$4.37	3.1%	\$4.59	5.0%	\$4.86	5.9%	\$3,248,356 Demand	\$3,439,436 Demand	\$191,080 Demand	
Rate Schedule 85 - Ag Food Processing Boiler (Total % Increase) & all in rate	N/A	N/A	5.0%	N/A	5.0%	N/A	5.0%	\$13,230 Total	\$13,892 Total	\$662 Total	
Basic Charge - (per month)	\$1,000.00	\$1,050.00	5.0%	\$1,102.50	5.0%	\$1,157.63	5.0%	\$13,230 Basic	\$13,892 Basic	\$662 Basic	
Energy Block 1 (per kWh)	\$0.02601	\$0.02601	0.0%	\$0.02601	0.0%	\$0.02601	0.0%	\$0 Energy	\$0 Energy	\$0 Energy	
Energy Block 2 (per kWh)	\$0.02966	\$0.02966	0.0%	\$0.02966	0.0%	\$0.02966	0.0%	\$0 Energy	\$0 Energy	\$0 Energy	
Demand Charge (per kW)	\$5.14	\$5.26	2.3%	\$5.37	2.1%	\$5.52	2.8%	\$0 Demand	\$0 Demand	\$0 Demand	
Rate Schedule 94 - New Large Load Service	\$ 0.03678	N/A	0.0%	N/A	0.0%	\$ 0.03369	0.0%	\$3,448,151 Total	\$3,448,151 Total	\$0 Total	
Energy Charge (per kWh)	Market or \$0.03044	Market or \$0.03044	0.0%	Market or \$0.03044	0.0%	Market or \$0.03044	0.0%	\$3,448,151 Energy	\$3,448,151 Energy	\$0 Energy	102,352
Total Rate Change & all in Rate	\$ 0.03829	\$ 0.03881	2.0%	\$ 0.03933	2.0%	\$ 0.03991	2.0%	\$189,072,772 Total	\$192,761,149 Total	\$3,688,377 Total	4,829,907
Percent of Revenue from Fixed Charges								23.1%	23.5%	44.1%	

APPENDIX B: SUMMARY TABLES

MWH Sales												
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total Growth
Residential-Total (1)	795,253	806,135	817,181	828,392	839,772	851,322	863,045	874,944	887,022	899,281	911,724	116,472
General Service (2), (PA)&(PA St. Lghts)	507,372	515,705	524,066	532,427	540,779	549,137	557,494	565,849	574,206	582,563	590,919	83,547
Irrigation (3)	619,332	592,040	599,556	607,073	614,590	622,106	629,623	637,140	644,657	652,173	659,690	40,359
Street Lights (6)	4,516	4,516	4,516	4,516	4,516	4,516	4,516	4,516	4,516	4,516	4,516	-
Large General Service (7)	254,429	259,467	264,505	269,544	274,582	282,139	287,177	292,215	299,773	304,811	312,368	57,939
Industrial (14)	426,976	525,622	588,338	668,446	767,308	819,386	870,334	902,438	937,117	966,846	992,590	565,614
Large Industrial (15) & (94)	1,568,079	1,765,161	1,929,872	2,132,766	2,259,360	2,367,678	2,438,852	2,550,031	2,673,207	2,741,332	2,816,279	1,248,199
Agricultural Processing (16)	345,676	363,477	367,306	407,639	410,655	411,726	413,785	415,854	418,929	420,022	422,123	76,447
Agricultural Boiler (85)	-	-	-	-	-	-	-	-	-	-	-	-
Alternate Power Sales	-	-	-	-	-	-	-	-	-	-	-	-
Total System	4,521,632	4,832,123	5,095,340	5,450,803	5,711,561	5,908,009	6,064,826	6,242,988	6,439,426	6,571,545	6,710,208	2,188,576

MWH Sales Increase												
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total Growth
Residential-Total (1)		1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	14.6%
General Service (2), (PA)&(PA St. Lghts)		1.6%	1.6%	1.6%	1.6%	1.5%	1.5%	1.5%	1.5%	1.5%	1.4%	16.5%
Irrigation (3)		-4.4%	1.3%	1.3%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	6.5%
Street Lights (6)		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Large General Service (7)		2.0%	1.9%	1.9%	1.9%	2.8%	1.8%	1.8%	2.6%	1.7%	2.5%	22.8%
Industrial (14)		23.1%	11.9%	13.6%	14.8%	6.8%	6.2%	3.7%	3.8%	3.2%	2.7%	132.5%
Large Industrial (15) & (94)		12.6%	9.3%	10.5%	5.9%	4.8%	3.0%	4.6%	4.8%	2.5%	2.7%	79.6%
Agricultural Processing (16)		5.1%	1.1%	11.0%	0.7%	0.3%	0.5%	0.5%	0.7%	0.3%	0.5%	22.1%
Agricultural Boiler (85)		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Alternate Power Sales		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total System		6.9%	5.4%	7.0%	4.8%	3.4%	2.7%	2.9%	3.1%	2.1%	2.1%	48.4%

Class Revenue (no Retail Rate change including Jan 1, 2015)												
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total Growth
Residential-Total (1)	43,330,607	43,903,695	44,505,413	45,115,820	45,756,174	46,364,499	47,003,002	47,651,038	48,330,649	48,976,589	49,654,153	6,323,545
General Service (2), (PA)&(PA St. Lghts)	23,375,712	23,784,391	24,195,077	24,606,415	25,018,755	25,431,958	25,846,196	26,261,202	26,676,860	27,093,933	27,511,594	4,135,882
Irrigation (3)	24,640,276	23,928,010	24,173,026	24,418,043	24,663,059	24,908,075	25,154,772	25,399,788	25,646,485	25,891,501	26,138,198	1,497,922
Street Lights (6)	931,540	931,540	931,540	931,540	931,540	931,540	931,540	931,540	931,540	931,540	931,540	-
Large General Service (7)	8,163,610	8,335,845	8,497,706	8,659,567	8,810,233	9,064,220	9,226,081	9,387,942	9,618,511	9,792,595	10,035,386	1,871,776
Industrial (14)	11,291,095	13,900,883	15,792,711	18,144,557	21,044,036	22,698,396	24,333,865	25,254,173	26,277,315	27,270,889	28,070,355	16,779,259
Large Industrial (15) & (94)	56,612,242	64,315,454	70,766,827	78,528,594	83,086,734	86,856,185	89,498,630	93,721,663	98,373,786	101,080,181	104,007,935	47,395,693
Agricultural Processing (16)	9,530,340	10,038,494	10,143,145	11,284,056	11,357,718	11,395,969	11,452,346	11,509,004	11,584,150	11,623,172	11,680,684	2,150,344
Agricultural Boiler (85)	13,297	13,297	13,297	13,297	13,297	13,297	13,297	13,297	13,297	13,297	13,297	-
Alternate Power Sales	-	-	-	-	-	-	-	-	-	-	-	-
Total System	177,888,720	189,151,609	199,018,742	211,701,890	220,681,546	227,664,139	233,459,727	240,129,647	247,452,592	252,673,696	258,043,142	80,154,422

APPENDIX B: SUMMARY TABLES

Class Revenue (with Retail Rate change applied for each year)												
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total Growth
Residential-Total (1)	43,330,607	44,544,595	45,814,213	47,120,420	48,486,774	49,848,699	51,272,802	52,738,538	54,271,249	55,236,289	57,255,053	13,924,445
General Service (2), (PA)&(PA St. Lghts)	23,375,712	24,286,391	25,227,277	26,197,615	27,198,855	28,231,858	29,297,096	30,396,102	31,528,760	32,181,833	32,841,494	9,465,782
Irrigation (3)	24,640,276	24,750,810	25,863,926	27,024,343	28,234,059	29,495,175	30,811,472	32,181,388	33,611,185	34,373,001	35,476,298	10,836,022
Street Lights (6)	931,540	936,240	940,940	945,640	950,340	955,140	959,940	964,740	969,540	974,340	979,240	47,700
Large General Service (7)	8,163,610	8,416,145	8,662,106	8,912,167	9,154,633	9,509,120	9,772,281	10,039,642	10,385,011	10,625,895	10,943,886	2,780,276
Industrial (14)	11,291,095	14,595,883	17,411,411	21,004,557	25,579,236	28,969,496	32,609,665	35,534,973	38,823,615	41,433,189	43,458,155	32,167,059
Large Industrial (15) & (94)	56,612,242	64,736,754	71,696,827	80,081,694	85,284,934	89,738,185	93,074,030	98,104,063	103,648,286	109,517,681	114,943,735	58,331,493
Agricultural Processing (16)	9,530,340	10,540,394	11,182,845	13,062,656	13,805,418	14,544,469	15,347,146	16,194,404	17,115,050	18,031,272	18,990,384	9,460,044
Agricultural Boiler (85)	13,297	13,997	14,697	15,397	16,197	16,997	17,797	18,697	19,597	20,597	21,597	8,300
Alternate Power Sales	-	-	-	-	-	-	-	-	-	-	-	-
Total System	177,888,720	192,821,209	206,814,242	224,364,490	238,710,446	251,309,139	263,162,227	276,172,547	290,372,292	302,394,096	314,909,842	137,021,122

Retail Rate Change by Class per year												
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Compound Total
Residential-Total (1)		1.46%	1.46%	1.46%	1.46%	1.46%	1.46%	1.46%	1.46%	0.44%	2.24%	15.3%
General Service (2), (PA)&(PA St. Lghts)		2.11%	2.11%	2.11%	2.11%	2.11%	2.11%	2.11%	2.11%	0.50%	0.50%	19.4%
Irrigation (3)		3.44%	3.44%	3.44%	3.44%	3.44%	3.44%	3.44%	3.44%	1.30%	2.24%	35.7%
Street Lights (6)		0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	5.1%
Large General Service (7)		0.96%	0.96%	0.96%	0.96%	0.96%	0.96%	0.96%	0.96%	0.50%	0.50%	9.1%
Industrial (14)		5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	2.83%	1.90%	54.8%
Large Industrial (15) & (94)		0.66%	0.66%	0.66%	0.66%	0.66%	0.66%	0.66%	0.66%	2.83%	2.00%	10.5%
Agricultural Processing (16)		5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	4.80%	62.6%
Agricultural Boiler (85)		5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	62.9%
Alternate Power Sales		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.0%
Total System		1.94%	1.95%	1.98%	2.02%	2.04%	2.08%	2.09%	2.11%	2.00%	2.01%	22.1%

Average Rate												
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total Growth
Residential-Total (1)	0.05449	0.05526	0.05606	0.05688	0.05774	0.05855	0.05941	0.06028	0.06118	0.06142	0.06280	0.00831
General Service (2), (PA)&(PA St. Lghts)	0.04607	0.04709	0.04814	0.04920	0.05030	0.05141	0.05255	0.05372	0.05491	0.05524	0.05558	0.00950
Irrigation (3)	0.03979	0.04181	0.04314	0.04452	0.04594	0.04741	0.04894	0.05051	0.05214	0.05271	0.05378	0.01399
Street Lights (6)	0.20628	0.20732	0.20836	0.20940	0.21045	0.21151	0.21257	0.21363	0.21470	0.21576	0.21685	0.01056
Large General Service (7)	0.03209	0.03244	0.03275	0.03306	0.03334	0.03370	0.03403	0.03436	0.03464	0.03486	0.03504	0.00295
Industrial (14)	0.02644	0.02777	0.02959	0.03142	0.03334	0.03536	0.03747	0.03938	0.04143	0.04285	0.04378	0.01734
Large Industrial (15) & (94)	0.03610	0.03667	0.03715	0.03755	0.03775	0.03790	0.03816	0.03847	0.03877	0.03995	0.04081	0.00471
Agricultural Processing (16)	0.02757	0.02900	0.03045	0.03204	0.03362	0.03533	0.03709	0.03894	0.04085	0.04293	0.04499	0.01742
Agricultural Boiler (85)	-	-	-	-	-	-	-	-	-	-	-	-
Alternate Power Sales	-	-	-	-	-	-	-	-	-	-	-	-
Total System	0.03934	0.03990	0.04059	0.04116	0.04179	0.04254	0.04339	0.04424	0.04509	0.04602	0.04693	0.00759

APPENDIX B: SUMMARY TABLES

Class Cost to Serve												
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total Growth
Residential-Total (1)	58,898,740	58,052,794	61,066,894	61,046,931	62,241,340	64,352,125	66,678,942	65,107,935	66,286,624	68,717,008		9,818,268
General Service (2), (PA)&(PA St. Lghts)	27,979,950	28,877,079	30,486,543	31,305,013	32,365,177	33,630,103	34,990,967	35,491,579	36,613,513	38,072,596		10,092,646
Irrigation (3)	34,769,448	34,908,863	36,766,432	37,098,001	38,025,583	39,323,827	40,666,103	40,342,062	41,255,184	42,571,948		7,802,500
Street Lights (6)	1,068,999	900,763	960,588	871,357	845,548	871,021	888,743	724,541	672,939	687,500		(381,499)
Large General Service (7)	7,387,700	8,247,151	8,720,798	9,360,144	9,942,000	10,357,280	10,799,761	11,682,658	12,245,301	12,793,116		5,405,416
Industrial (14)	13,449,028	16,513,564	19,146,739	23,206,111	25,692,461	27,890,637	29,654,849	33,165,212	35,426,057	37,158,308		23,709,280
Large Industrial (15) & (94)	39,964,578	49,005,134	55,524,470	63,131,884	68,852,587	72,668,723	77,875,738	88,138,185	93,638,373	98,286,770		58,322,192
Agricultural Processing (16)	9,394,911	10,537,015	11,970,072	12,836,559	13,382,950	13,806,112	14,255,990	15,253,378	15,807,774	16,240,645		6,845,734
Agricultural Boiler (85)	19,581	19,526	19,984	20,642	20,985	21,525	22,534	22,926	23,485	24,718		5,137
Alternate Power Sales	-	-	-	-	-	-	-	-	-	-		-
Total System	192,932,935	207,061,889	224,662,520	238,876,642	251,368,631	262,921,353	275,833,627	289,928,476	301,969,250	314,552,609		121,619,674

Class Cost to Serve Differential (Revenue-Cost)												
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	10 Yr Differential
Residential-Total (1)	(14,354,145)	(12,238,581)	(13,946,474)	(12,560,157)	(12,392,641)	(13,079,323)	(13,940,404)	(10,836,686)	(11,050,335)	(11,461,955)		(125,860,702)
General Service (2), (PA)&(PA St. Lghts)	(3,693,559)	(3,649,802)	(4,288,928)	(4,106,158)	(4,133,319)	(4,333,007)	(4,594,865)	(3,962,819)	(4,431,680)	(5,231,102)		(42,425,239)
Irrigation (3)	(10,018,638)	(9,044,937)	(9,742,089)	(8,863,942)	(8,530,408)	(8,512,355)	(8,484,715)	(6,730,877)	(6,882,183)	(7,095,650)		(83,905,794)
Street Lights (6)	(132,759)	40,177	(14,948)	78,983	109,592	88,919	75,997	244,999	301,401	291,740		1,084,101
Large General Service (7)	1,028,445	414,955	191,369	(205,511)	(432,880)	(584,999)	(760,119)	(1,297,647)	(1,619,406)	(1,849,230)		(5,115,024)
Industrial (14)	1,146,855	897,847	1,857,818	2,373,125	3,277,035	4,719,028	5,880,124	5,658,403	6,007,132	6,299,847		38,117,213
Large Industrial (15) & (94)	24,772,176	22,691,693	24,557,224	22,153,050	20,885,598	20,405,307	20,228,325	15,510,101	15,879,308	16,656,965		203,739,749
Agricultural Processing (16)	1,145,483	645,830	1,092,584	968,859	1,161,519	1,541,034	1,938,414	1,861,672	2,223,498	2,749,739		15,328,632
Agricultural Boiler (85)	(5,584)	(4,829)	(4,587)	(4,445)	(3,988)	(3,728)	(3,837)	(3,329)	(2,888)	(3,121)		(40,337)
Alternate Power Sales	-	-	-	-	-	-	-	-	-	-		-
Total System	(111,726)	(247,647)	(298,030)	(166,196)	(59,492)	240,874	338,920	443,816	424,846	357,233		922,599

Class Cost to Serve Differential (Revenue-Cost) %												
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total Chg
Residential-Total (1)	-32.2%	-26.7%	-29.6%	-25.9%	-24.9%	-25.5%	-26.4%	-20.0%	-20.0%	-20.0%		-12.2%
General Service (2), (PA)&(PA St. Lghts)	-15.2%	-14.5%	-16.4%	-15.1%	-14.6%	-14.8%	-15.1%	-12.6%	-13.8%	-15.9%		0.7%
Irrigation (3)	-40.5%	-35.0%	-36.0%	-31.4%	-28.9%	-27.6%	-26.4%	-20.0%	-20.0%	-20.0%		-20.5%
Street Lights (6)	-14.2%	4.3%	-1.6%	8.3%	11.5%	9.3%	7.9%	25.3%	30.9%	29.8%		-44.0%
Large General Service (7)	12.2%	4.8%	2.1%	-2.2%	-4.6%	-6.0%	-7.6%	-12.5%	-15.2%	-16.9%		29.1%
Industrial (14)	7.9%	5.2%	8.8%	9.3%	11.3%	14.5%	16.5%	14.6%	14.5%	14.5%		-6.6%
Large Industrial (15) & (94)	38.3%	31.6%	30.7%	26.0%	23.3%	21.9%	20.6%	15.0%	14.5%	14.5%		23.8%
Agricultural Processing (16)	10.9%	5.8%	8.4%	7.0%	8.0%	10.0%	12.0%	10.9%	12.3%	14.5%		-3.6%
Agricultural Boiler (85)	-39.9%	-32.9%	-29.8%	-27.4%	-23.5%	-20.9%	-20.5%	-17.0%	-14.0%	-14.5%		-25.4%
Alternate Power Sales	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%
Total System	-0.06%	-0.12%	-0.13%	-0.07%	-0.02%	0.09%	0.12%	0.15%	0.14%	0.11%		-0.2%

Outside of Target Band established in Resolution #8768 - needs rate increase to comply with target.

Outside of Target Band established in Resolution #8768 - needs rate decrease to comply with target.

APPENDIX C: REVENUE REQUIREMENT COMPARISON 2015 TO 2017

Revenue Requirements:	2017 COS	2015 COS	Differential
Power	\$ 103,038,617	\$ 125,786,928	\$ (22,748,311)
Generation	\$ 502,522	\$ 435,770	\$ 66,752
Transmission O&M	\$ 2,751,827	\$ 4,521,072	\$ (1,769,245)
Distribution O&M	\$ 14,732,459	\$ 12,780,250	\$ 1,952,208
Customer Accounts	\$ 8,770,846	\$ 7,556,210	\$ 1,214,636
Broadband Network O&M	\$ 1,739,383	\$ 1,508,556	\$ 230,827
Administrative and General	\$ 17,645,876	\$ 15,238,631	\$ 2,407,245
Debt Service Existing	\$ 7,143,831	\$ 8,108,081	\$ (964,250)
Debt Service Proposed	\$ 2,525,000	\$ -	\$ 2,525,000
Other Expenses	\$ 19,359,603	\$ 44,540,872	\$ (25,181,269)
Capital Projects	\$ 69,299,538	\$ 55,859,940	\$ 13,439,598
Total Revenue Requirements	\$ 247,509,503	\$ 276,336,310	\$ (28,826,807)
Non Rate Revenue			
Power - Sales to Other Utilities	\$ 35,992,378	\$ 86,502,755	\$ (50,510,377)
Broadband Network Sales	\$ 5,255,269	\$ 4,492,283	\$ 762,986
Interest / JLB Payments / Misc.	\$ 9,557,708	\$ 1,375,765	\$ 8,181,943
Contribution In Aid of Construction	\$ 3,771,217	\$ 14,616,856	\$ (10,845,639)
Total Non Rate Revenue	\$ 54,576,571	\$ 106,987,658	\$ (52,411,087)
Total Net Revenue Requirements	\$ 192,932,932	\$ 169,348,652	\$ 23,584,279

APPENDIX C: 2024 REVENUE REQUIREMENT COMPARISON

	2024	2024	
Revenue Requirements:	2017 COS	2015 COS	Differential
Power	\$ 233,090,202	\$ 166,190,072	\$ 66,900,131
Generation	\$ 635,064	\$ 568,581	\$ 66,483
Transmission O&M	\$ 3,520,468	\$ 3,305,346	\$ 215,122
Distribution O&M	\$ 18,493,525	\$ 16,675,328	\$ 1,818,197
Customer Accounts	\$ 10,759,317	\$ 9,859,140	\$ 900,177
Broadband Network O&M	\$ 2,153,020	\$ 1,968,324	\$ 184,697
Administrative and General	\$ 21,883,167	\$ 19,882,957	\$ 2,000,210
Debt Service Existing	\$ 4,720,759	\$ 5,726,125	\$ (1,005,366)
Debt Service Proposed	\$ 3,787,500	\$ -	\$ 3,787,500
Other Expenses	\$ 118,743,414	\$ 94,381,301	\$ 24,362,113
Capital Projects	\$ 31,901,863	\$ 27,293,347	\$ 4,608,515
Total Revenue Requirements	\$ 449,688,299	\$ 345,850,521	\$ 103,837,778
Non Rate Revenue			
Power - Sales to Other Utilities	\$ 121,107,299	\$ 93,264,022	\$ 27,843,277
Broadband Network Sales	\$ 5,634,360	\$ 4,913,143	\$ 721,216
Interest / JLB Payments / Misc.	\$ 30,674,434	\$ 1,573,036	\$ 29,101,398
Contribution In Aid of Construction	\$ 2,343,733	\$ 2,343,734	\$ (0)
Total Non Rate Revenue	\$ 159,759,826	\$ 102,093,935	\$ 57,665,891
Total Net Revenue Requirements	\$ 289,928,473	\$ 243,756,586	\$ 46,171,887